

# **LDR Electrical Heating Steam Generator**

## **INSTALLATION&OPERATION MANUAL**

## **FEATURES**

1. The boiler furnace adopts Q235 steel with rust-proof in and out wall, or uses high quality stainless steel, which insures unrusty and high intensity.
2. The high voltage peripheral are used to supply water, which stands wear and tear.
3. There are two kinds of working systems: one is full-automation, and the other is half-automation. The steam(0.4/0.7Mpa) can be produced within half an hour after being connected with power source and water source. It`s not only the ideal steam source for clothing producing and washing, but also can service for hospital, hotel, food industry, etc..

## **USAGES**

1. First setting up the gas outlet valve, relief valve, pressure controller and pressure gauge, then linking the pressure control line to the pressure according to the identifier.
2. Make sure the water inlet pipe and water box are connected, then turning on the water valve to supply water. And a automation water controller is in the water box.
3. Plugging in the steam generator, then turning on the main switch, the water indicator is lit and the water pump starts to supply water for water box. When the water reaches the level, the water indicator is off and the heating indicator is on, the rated pressure can be achieved within 4 to 30 minutes. At that time users can turn on the gas outlet valve to use steam.
4. The functions of half-automation are the same as full-automation, excepting watering by hand.

## **NOTICES**

1. Users had better use soft water, and the water pipe must be flushed to stop from the sundries being into water box and water pump. A valve is needed at the inlet-hole which is convenient for controlling.
2. The power voltage must be controlled in the scope of 220v/380v. If the error is large, a voltage regulator is needed, otherwise the generator may be broken or the quantity of steam may be reduced.
3. The boiler furnace must be blown off once every day. The water level controller, the interior of boiler furnace, the electrical heated tube and the interior of water box must be cleaned and maintenance once every month, which can make sure the machine`s regular work and extend period of use.
4. Make sure the water inlet valve is turned off, and the redundant water in boiler furnace and water box should be discharged, so that the water won`t flow into boiler furnace to influence the next day`s work..
5. It may be hard to be watered at the beginning of opening the machine, for

there is some air in the pipe. If it happens, please widdershins revolve a screw on water outlet connections on water pump for 3-4 circles, and tighten the screws after some water floweing out.

6. The steam pressure is controlled within 0.4Mpa or 0.7Mpa, users couldn't adjust the pressure by themselves.
7. The boiler furnace may have incrustation scale after long-time use, it needs to be dealt with some chemical medicines. The usual medicines are:  $\text{Na}_2\text{CO}_3$ ,  $\text{Na}_2\text{PO}_4\text{H}_2\text{O}$ ,  $\text{NaOH}$ , tanning extracts and so on. The medicines quantity depends on the boiler's volume.
8. The operatingof boilong out.  
Choosing the suitbale chemical medicament according to the aim of boiling out. First dissolving and deliquating the medicament by warm water, then injecting it into furnace through chemical feed pipe or water box. The sewage should be blew out every 8 hours under the condition of rated pressure and 5%~10% of rated evaporation. And when the basicity is half of beginning, adding some medicament and boiling to the specific time. Please open the blow off valve and swash by clean water when the medicament water's temperature dropping to  $70^\circ\text{C}$

## USUAL FAULT AND SOLUTIONS

1. The machine can't be started after swithing on.  
Reasons:(1)The fuse protector is damaged.  
(2)The poweer and line is error.  
(3)The contactor is error.  
Solutions: (1)Replacing the fuse protector  
(2)Examining and repair the power and line.  
(3)Repairing or replacing the contactor.
2. The water pump doesn't work.  
Reasons:(1)The fuse protector is damaged.  
(2)The contactor is error.  
(3)The impeller gets stuck.  
(4)The motor is damaged.  
Solutions: (1)Replacing the fuse protector.  
(2)Repairing or replacing the contactor.  
(3)Clean the foreign matters om impellers. If the impellers are damaged, replace another one.  
(4)Repairing the motor.
3. The water pump pressure is not enough or doesn't water.  
Reasons:(1)The water pump moved opposited.  
(2)There is some air in the water pump.  
(3)The pipe is blocking.  
Solutions: (1)Inspecting the movin direction.(The back wind wheel moves

- clockwisely), and adjusting the line.
- (2) Turning on the steam outlet screw, then tightening it after some water flowing out.
- (3) Clearing away the foreign matter.
4. Heating up too slow or doesn't heat up.
- Reasons:(1)The heating pipe is damaged.
- (2)The fuse protector is damaged.
- (3)The contactor is damaged.
- Solutions: (1)Changing the heating pipe.
- (2) Changing the fuse protector.
- (3)Changing th contactor.
5. The contactor doesn't work.
- Reasons:(1)The contactor gets stuck.
- (2)The coil is damaged.
- (3)The contactor is damaged.
- Solutions: (1)Stiring the junction point.
- (2)Changing the contactor.
- (3)Changing the contactor.
6. The suction of the contactor is not enough.
- Reasons:(1)The content gauge gets stuck.
- (2)The content gauge is damagend .
- (3)Some air is in the water pump.
- Solutions: (1)Clearing away the scale deposite on the content gauge.
- (2)Changing the content gauge.
- (3)Repairing or changing the contactor.
7. The water pump atop running or can't stop running.
- Reasons:(1)The content gauge gets stuck.
- (2)The content gauge is damagend .
- (3)The contactor is damaged or gets stuck.
- Solutions: (1)Clearing away the scale deposite on the content gauge.
- (2)The content gauge is damagend .
- (3)Repairing or changing the contactor.
8. The pressure of water pump is not enough.
- Reasons:(1)The impeller get attrition.
- (2)The outer skin of pump gets attrition.
- (3)Some aie is in the water pump.
- Solutions: (1)Changing th eimpellers.
- (2)Adjusting the space or changing the pump.
- (3)Making the air out.
9. The water level in the generator can not maintain.
- Reasons:(1)The cheak valve or the magentic valve leak water.
- Solutions: (1)Changing the cheak valve or the magentic valve.
10. The working pressure is not steady.
- Reasons:(1)The pressure controller I sdamaged.

**Solutions: (1)Changing the pressure controller.**

**11. The circuit is broken down.**

**Reasons:(1)The dielectric resistance is low, and the guide line is too hot.**

**Solutions: (1)Keeping dry, asking a wireman to repair it.**

**12. Leaking water or gas.**

**Reasons:(1)The pipe junction is not strictness.**

**(2)The seal ring is damaged.**

**Solutions: (1)Repairing the junction or changing the valve.**

**(2)Changing the seal ring.**

## **ATTENTIONS**

- 1. In order to make sure personal safety, the shell of generator must be connected with ground before first use.**
- 2. Adjusting or replacing big numerical value safety controller an dother components is not permission.**
- 3. When cleaning away the scale deposite or other foreign matters in the boiler furnace, turning on the blowoff valve, making the foreign matters out with steam. The staff should keep away from the blowoff point for safety.**
- 4. In order to increase service life of machine and stop the electrical heated tube from overburning because of too much scale deposite, it`s best to use soft water and clear up the scale deposite on electrical heated tube and liquid level controller on time.**
- 5. When the voltage is lower than working voltage, the realy and AC conactor`s suction fall off, maybe pulsate continuously and damage easily. At that time, the machine should be turned off, and then it can work as usual when the voltage is normal.**
- 6. The wiring board should be cleaned ofthen. The insulation resistance should be greater than 2MO and the ground resistance should be less than 4MO.**
- 7. The pressure controller, safety valve and other components should be tested by the local test department every year.**
- 8. The junction of water or gas pipe should be checked up often. If water or gas is leakage, the junction should be sealed up.**